

## Python

### \* Learn Python

→ Python is a popular programming language.

→ એક હિન્દુભાષણ બનાવી આપે શર્મસ રહે બાળથીની ખોલ્યોંબા જેણી રૂચાત્મક છે.

### \* What is python ?

→ Python is a popular programming language.  
It was created by Guido van Rossum, and released in 1991.

શીના આંશ કાશાંદર છે:

(i) web development (server-side)

(ii) Software development

(iii) mathematics,

(iv) System Scripting.

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- \* python Indentation

→ Indentation refers to the spaces at the beginning of a code line.

→ While in other programming languages the indentation in code is for readability only, the indentation in python is very important, python uses indentation to indicate a block of code.

Ex:-

if 5 > 2:

print("Five is greater than two")

Run:- Five is greater than two

\* Python will give you an error if you skip the indentation.

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## \* Python Variables

In Python, variables are created when you assign a value to it:

Ex

var = 10

var1 = "deep is a good boy"

print(var)

print(var1)

Run:-

=

10

deep is a good boy.

→ python has no command for declaring variable.

→ you will learn a more about variable in python variables chapter.

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## \* Comments

Python has commenting capability for the purpose of in-code documentation.

→ Comments start with a `#`, and Python will ignore the rest of the line as a comment:

c1) executing a comment

→ comments starts with a `#`, and Python will ignore them:

Ex:-

```
# This is a comment  
print("Hello")
```

Run :- Hello

Ex:-

```
# print("Hello") # This is a comment
```

Ans

Run :- Hello

Ex:-

```
# print("Hello")  
print("Deepu")
```

Run :- Deepu

### \* Multi line comments

- મુલ્યાંતરની પાસે અને અનેક વિભાગીઓમાં એવી પાદરાંના જીવી નથી.
- Multi line comments બેન્ચાની આજી તથી # છે. અને એવી કોઈ કોઈ નથી.

Ex:-

```
# This is a comment  
# written in  
# more than just one line
```

```
print ("Hello, world")
```

Run:- Hello, world

- or, not quite as intended, you can a multiline string.
- since python will ignore string literals that are not assigned to u. variable, you can add a multi string in your code, and place your comment inside it :

Ex

```
""" This is a comment """
print ("Hello, world")
```

Run:- Hello, world

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### \* python variables

#### \* variables

- Variables are containers for storing data values.

#### \* Creating variables

- Python has no command for declaring a variable
- A variable is created the moment you first assign a value to it.

### Ex

$x = 5$

$y = "Deep"$

print(x)

print(y)

Run :- 5

Deep

## \* Casting

→ की तरीके स्ट्रिंग्स नोंडी उत्तेज गुणाव अपने बदला दिया जाएगा। शी, ती या कमिंग्स वाली करी बातों को।

Ex:

```
x = str(3)
y = int(3)
z = float(3)
```

```
print(x)
print(y)
print(z)
```

Run :-  
= 3  
= 3  
= 3.0

## \* Get the type

→ you can get the data type of a variable with the `type()` function.

Ex:

```
x = 5
y = 0.5
z = "deep"
print(type(x))
print(type(y))
print(type(z))
```

Run :- <class 'int'>
<class 'float'>
<class 'str'>

\* single or double quotes?  
→ string variable can be declared either by using single or double quotes:

Ex:

c1 = "Hem"  
c1 = 'Hem'  
print(c1)  
print(c1)

RUN:- Hem  
Hem

## \* Variable Name

- A variable can have a short name like x and y or a more descriptive cage, carnum, total - volumes. Rules for Python variables
- variable name ~~can't start with number~~  
can start with letter.
- variable name ~~can't have space~~
- variable name ~~can't have special characters~~  
can have underscores (A\_z, 0-9, \_ )
- variable name are case-sensitive.  
(age, Age, AGE)

Ex:

myvar = "hem"

my\_var = "hem"

myVar = "hem"

MYVAR = "hem"

myvar1 = "hem"

\* Multi Words Variable Name

- \* Multi Words Variable name
- कृषि वर्गीय विकासीकरण  
संस्कृत मुद्रित लेखन शब्दों
- अधिकारी वापरी इनोवेशन  
अवधि विकास विभाग एवं नियन्त्रण

i) camel case

ii. camel case  
Each word, except the first, starts with a capital letter.

myVariableName = "John"

# PASCAL CASE

Each word starts with a capital letter:

MyVariableName = "John"

iii). snake case

Each word is separated by an underscore character:

```
my_variable_name = "John"
```

## variable Name

\* Assign multiple values

→ many values to multiple variables

Python ဆಾರ್ಟ್ ಹಿತ ಕೊಡುವುದು ಅಲ್ಲಿನೇ ಮುಚ್ಚಿ ಸ್ಥಿರಾಂಶಿ ಮುಚ್ಚಿ ವಾಡಿ ಹಿ.

Ex:

a, b, c = "apple", "ball", "cat"

print(a)

print(b)

print(c)

**Run:-**

apple

ball

cat

\* one value to multiple variables

ಮಾನಿ ಹಿತ ಕೊಡುವುದು ಅಲ್ಲಿನೇ ಸ್ಥಿರಾಂಶಿ ಮುಚ್ಚಿ ವಾಡಿ ಹಿ.  
ಹಿತ ಕೊಡುವುದು ಅಲ್ಲಿನೇ ಸ್ಥಿರಾಂಶಿ ಹಿ.

x = y = z = "hem"

**Run:-**

hem  
hem  
hem

## → unpack collection

કી એવી ચાલે છોયાની પણ આપની જરૂર નથી કે આ અન્યાન્ય કોઈ કોડ હોય. એવી પણ કોઈ કોડ નથી કે આ એવી કોઈ કોડ હોય. એવી એવી કોડ હોય કે આ એવી કોડ હોય.

Ex:

```
class = ["deep", "vasu", "lalit"]
```

```
a, b, c = class
```

```
print(a)
```

```
print(b)
```

```
print(c)
```

RUN :-	deep vasu lalit
--------	-----------------------

## \* Global Variables

- Variable किंके इंकाशनी वाली प्रोग्राममें ज्यादी कि C भेजना लाभ नहीं होता तो Global Variable तरीके सिखेगा है.
- global Variables एक वित्त द्वारा उपलिखित लगातार कि, इंकाशनी अंदर उनीं वाली वाली वाली.

EX

इंकाशनी वाली a variables वाली जो function की रख अंदर लिनी उपर्योग की.

x = "DEEP"

def myfun():

print ("my name is "+ x)

my fun()

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## \* The global keyword

- એવાંસર વીજી, જાહે એવી ફોરોલો વેર્સિયન વિશે, જેને એ એક Variable કોઈ વિશે નથી હોય તો એની એ પ્રકારની વેર્સિયન એ એવી હશે.
- ફોરોલો વેર્સિયન એ global variable કોઈ વિશે, એ એ એવી વિશે નથી હોય તો એની એવી વિશે નથી હોય.

Ex:

IF you use the [global] keyword, the Variable belongs to the global scope:

```
def myfunc():
```

```
    global X
    X = "deep"
```

```
myfunc()
```

```
print("my name is" + X)
```

Run:- my name is deep

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## \* Python data Types

### 1. Built - in data types

- ચૈરાગમિંગાર્ની, કોડ રાયર્સ હી હેઠે અધ્યાત્મ જે.
- Variable નિયમ બકારો રેલ હોય તરીકે છે, એવી નિયમ બકાર વાળી મેળુંચી તરીકે છે.
- ચાલાંગ એ કોડારીમાં, એજાન્ડ વીં લિફ્ટ-ડાઉન નીચીની કોડ બકારી હાથી છે.

Text type :- str

Numeric types :- int, float, complex

Sequence Types :- list, tuple, range

Mapping types :- dict (ફેઝ)

Set type : set, frozenset

Boolean Type :- bool

Binary Types :- bytes, bytearray, memoryview

None Types :- None type

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### \* Getting the data type

→ type(x) තිබාගැනීමෙන් නියමිත කළ වූ හේ

Ex:

x = 28

print(type(x))

Run:

<class 'int'>

### \* Setting the Data type

DATA  
TYPE

EXAMPLE

{  
x =  
print(x)  
print(type(x))  
Try it Run

str

x = "Hello world"

Hello world

<class 'str'>

int

x = 20

20

<class 'int'>

float

x = 20.5

20.5

<class 'float'>

complex

x = 1j

1j

<class 'complex'>

list       $x = ["apple", "banana", "cherry"] \rightarrow \text{list}$

tuple       $x = ("apple", "banana", "cherry")$

tuple       $x = \text{tuple}(6)$

dict       $x = \{"name": "David", "age": 19\}$

set       $x = \{"apple", "banana", "cherry"\}$

frozenset       $x = \text{frozenset}(\{"apple", "cherry"\})$

bool       $x = \text{True}$

bytes       $x = b"Hello!"$

bytearray       $x = bytearray(5)$

memoryview       $x = memoryview(bytes(5))$

None Type       $x = \text{None}$

\*

python numbers

These are three numeric type in python.

- int
- float
- Complex

- int
- =

→ Int, or integer, is a whole number, positive, without decimal, of unlimited length.

x = 70

y = 7234584321

z = -223451

```
print(type(x))
print(type(y))
print(type(z))
```

Run:

```
<class 'int'>
<class 'float'>
<class 'float'>
```

## • float

→ float, or "floating point Number" is a number, positive or negative, containing one or more decimal.

x = 1.20

y = 1.0

z = -35.50

```
print (type(x))
print (type(y))
print (type(z))
```

## Run

```
<class 'float'>
<class 'float'>
<class 'float'>
```

→ float 10 ની રૂપો એવી હોય કે "e" સાથેની ચાર્ગ વર્ણની કરી શકે હોય એ?

x = 35e3

y = 12e4

z = -87.7e100.

• Complex

Complex numbers are written with a "j" as the imaginary part:

→ જાણો કે કોઈ નિયમ એવી નથી "j" વિશે  
ગુણાત્મક વાપર હૈ.

$$x = 3 + 5j$$

$$y = 5j$$

$$z = -5j$$

`print(type(x))`

`print(type(y))`

`print(type(z))`